REMARKS

In the Office Action dated February 24, 2005, a typographical error at page 4 of the specification was noted, which has been corrected, together with another error that the Applicant has noted at page 2. No new matter is added thereby.

Claims 1, 2 and 6-9 were rejected under 35 U.S.C. §102(b) as being anticipated by Andrews et al. The Examiner referred to elements 32 as corresponding to the "plurality of notches" claimed in claim 1 in its original form.

Claims 1, 8 and 9 also were rejected under 35 U.S.C. §102(b) as being anticipated by Artig. The Examiner considered the fins 34 described in that reference as corresponding to the "plurality of notches" in claim 1 as originally filed.

Claims 3-5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Andrews et al.

In response, independent claim 1 has been amended to make clear that the surface that has the notches thereon is a surface that faces the evacuated volume contained in the housing. Claim 1 also has been amended to state that the notches must be able to relieve thermal stress in that surface, caused by back-scattered electrons striking that surface when the electron beam strikes the anode to produce x-rays. These changes are supported in the specification as originally filed at least at page 2, in the paragraph beginning at line 10, and at page 6, in the paragraph beginning at line 5.

In each of the Andrews et al and Artig references, the components designated by the Examiner as corresponding to a "plurality of notches" do not face the evacuated volume of the respective x-ray tubes described in those references. In each of those references, the elements 32 or 34 are located at the exterior of the

wall that forms or defines the evacuated volume of the x-ray tube. Moreover, in each of the Andrews et al and Artig references, the elements 32 or 34 are for the purpose of promoting heat transfer to a coolant that flows within the x-ray radiator. Of course, the coolant cannot flow in the evacuated volume of the housing, since that would then destroy the vacuum.

Additionally, neither of the components 32 or 34 in the Andrews et al. and Artig references are capable of relieving thermal stress in the surface that is struck by back-scattered electrons. Although those elements, as noted above, promote heat transfer within the overall x-ray tube arrangement, this is not the same as relieving thermal stress. Since the elements 32 and 34 in the Andrews et al and Artig reference are disposed perpendicularly to the surface that is actually struck (or may be struck) by back-scattered electrons, those elements 32 and 34 cannot relieve thermal stress on the actual surface that is struck by the back-scattered electrons, this thermal stress being caused by expansion and contraction of that surface. As noted in the present specification, it is this unrelieved expansion and contraction that can cause cracks in the housing to develop, thereby creating a leak that can destroy the vacuum. The general concept of promoting heat transfer, as described in the Andrews et al and Artig references, is not the same as relieving mechanical thermal stress, as is accomplished by the notches in the subject matter disclosed and claimed in the present application.

Therefore, neither the Andrews et al nor the Artig reference discloses all of the elements of claim 1 as arranged and operating in that claim, and therefore neither of those references anticipates claim 1 nor any of the claims depending therefrom.

As to claims 3-5, each of those claims embodies the subject matter of independent claim 1 therein, and therefore the above arguments apply equally to the rejection of claims 3-5 as being unpatentable over Andrews et al under 35 U.S.C. §103(a). For the reasons discussed above, the subject matter of claims 3-5 would not have been obvious to a person of ordinary skill in the field of x-ray radiator design based on the teachings of Andrews et al.

All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application is respectfully requested.

Submitted by,

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